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REQUEST FOR PROPOSALS FOR:

**OYSTER POND COMPREHENSIVE WASTEWATER
MANAGEMENT PLAN (CWMP)**

FOR

**THE TOWN OF FALMOUTH, MASSACHUSETTS
DEPARTMENT OF PUBLIC WORKS**

**416 Gifford Street
FALMOUTH, MA 02540**

November 2012

DIRECTOR OF PUBLIC WORKS

Raymond A. Jack

WASTEWATER SUPERINTENDENT

Gerald C. Potamis, P.E.

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- Section 0220 -

SPECIAL CONDITIONS - SCOPE OF SERVICES

1.0 Background

The Town of Falmouth seeks a qualified firm, individual, governmental agency, non-profit organization, or professional Consultant to provide Engineering and Consulting Services to develop a Comprehensive Wastewater Management Plan (CWMP) for the Oyster Pond watershed. The firm (or team) should be qualified to provide a broad range of services relating to Comprehensive Wastewater Planning, Design, and Construction as well as knowledge of federal, state and local regulatory requirements, site analysis, cost estimating, and CWMP project planning and implementation.

Relevant experience will include: CWMP municipal wastewater infrastructure design and construction oversight and implementation, evaluation of alternative sewer technologies such as site analysis and selection, evaluation of down-gradient environmental impacts, CWMP project development, cost estimating, hydrogeological evaluation services, public communication, Massachusetts State Revolving Loan program applications, and regulatory/resource agencies review/permit process completion for projects of this nature.

The Town may award additional contracts without additional public requests for proposal for additional services outlined in the RFP if mutually agreed by the Town and the successful Respondent. Enhancements and supplemental tasks to this RFP are allowable. Any innovative solutions that seem promising to the respondent are welcome, and will be negotiated as additional cost items (Enhancements/Supplemental Tasks) beyond this Scope of Services contract (base contract).

The scope of services for the project shall include the following:

1. Comprehensive Needs Assessment
2. Alternatives Evaluation and Screening
3. Draft and Final Comprehensive Wastewater Management Plan (CWMP)
4. Submission of all required State and County Environmental Forms
5. Public Participation

The goal of this project is a CWMP that demonstrates a detailed analysis of the most cost effective and environmentally sound means of meeting the nitrogen reduction requirements of the Total Maximum Daily Load (TMDL) required by the MA DEP.

2.0 Reference Materials

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The work conducted herein shall utilize and build upon prior planning efforts. Reports and documents considered pertinent to the planning process will be made available by the town. These include:

1. A Coastal Pond Studied by Oceanographic Methods, 1969, K. O. Emery (hard copy available for review or through the Oyster Pond Environmental Trust (OPET) (www.opet.org)
2. Linked Watershed-Embayment Model to Determine Critical Nitrogen Loading Thresholds for Oyster Pond, Falmouth, Massachusetts, Massachusetts Estuaries Project, January 2006. (available on line)
3. Oyster Pond Embayment System Total Maximum Daily Loads (TMDL) for Total Nitrogen, MADEP, February 2007. (available on line)
4. Design Drawings, Town of Falmouth Wastewater Improvements: Contracts 2A (Woods Hole Lift Station), 2B (Jones Palmer and Shivericks Lift Stations), 3A (Woods Hole and Shivericks Force Mains), 3B (Jones Palmer Force Main), 4 (Inner Harbor, Falmouth Beach and Gardiner Road Lift Stations), and 5 (Main Street Interceptor and Falmouth Inner Harbor Sewers and Force Main, Camp Dresser and McKee, 1983
5. Appendix 4-4, Inventory of List Station Equipment and Appendix 4-5, Summary of Collection Systems Hydraulic Capacity , Little Pond, Great Pond, Green Pond, Eel Pond and Waquoit Bay Watersheds Needs Assessment Report , October 2007 Stearns and Wheler.

3.0 Tasks

Task 1 – Baseline Conditions and Needs Assessment

1. Document Baseline Conditions
 - 1.1. Review previous planning efforts and relevant documents, including but not limited to available MEP reports and TMDL reports, Barnstable County Department of Health and Environment (BCDHE) information, and information from the Oyster Pond Environmental trust (OPET). Use the MEP watershed delineations to identify the watershed area tributary to Oyster Pond and Oyster Pond Lagoon (Pond and Lagoon).
 - 1.2. Define changes in conditions since MEP assessments.
 - 1.3. Review current and build-out wastewater flows and nutrient loads for the planning area, by sub watershed, for the MEP evaluation of the watersheds to Oyster Pond. The Respondent must review the current and build-out land use analysis with the Town's Planning Department, and the current and build-out water use analysis with

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the Town's Water Division. The Respondent shall review existing data and information to determine if it is adequate for the purposes of this scope of work and for decisions and recommendations following from this work.

- 1.4. Using existing Town records locate and characterize modifications to the storm drain system in the watershed. If not already defined, locate major storm drainage conduits discharging directly to the Pond and Lagoon. Conduct a dry-weather survey of discharges to ensure that there are no illegal connections to the storm drain pipes.
- 1.5. Identify water quality, storm water management, wastewater service, nutrient management or other priorities/needs areas within the planning area, including:
 - Watershed sub-areas which contribute most substantially to nutrient loading and surface water quality problems
 - Any other areas in which nutrient management is considered urgent.
- 1.6. Develop a GIS map that consolidates and documents the above information that is compatible with the Town's GIS system.
- 1.7. Prepare a Technical Memorandum that defines the physical, biological and water quality health of the Pond and Lagoon. If deemed necessary, recommend that the MEP simulation of the nitrogen and DO loading, and impacts to the Pond and Lagoon be updated to reflect current conditions. Define the nature and severity of impairments, including especially, nitrogen enrichment, and confirm the sources or causes of the impairments.
- 1.8. Characterize consequences of the "No Action" Alternative over the next 20 period.
- 1.9. Meet with the Town Falmouth and other stakeholders as determined appropriate by the Town to review the findings of the task.

Task 2 - Development and Screening of Alternatives

2. Identify, Develop, and Screen Alternatives

2.1. Identify and Develop Alternatives

Identify all traditional and non-traditional technologies and approaches, including structural and non-structural measures that meet the needs defined in Task 1. Technology options should include traditional and nontraditional sewer systems (e.g. gravity, vacuum, low pressure, step/steg), as well as transport to existing conveyance systems and the main wastewater treatment plant. Only evaluate flow and route to connect to the current wastewater plant. Capacity to treat and discharge at the current WWTP is not part of this RFP. On-site technologies, such as denitrifying systems and cluster systems should also be addressed. Only technologies that have been proven to meet the required nitrogen reduction goals, and are approved in Massachusetts should be

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evaluated. Promising technologies that have a short pathway to regulatory approval may be discussed. Evaluation should also include an estimate of cost savings that would be likely if the recommended on-site denitrifying system(s) were purchased in bulk. The respondent may discuss potential opportunities within the watershed based upon results from the PRB proposed demonstration project. Inlet widening, aquaculture and non compliant Ecotoilets and onsite systems should be excluded.

2.2 Develop a Technical Memorandum

Develop a Technical Memorandum summarizing the technologies and approaches to be considered, providing a summary of the characteristics, advantages and disadvantages, implementation issues, relative capital and operating costs (if applicable), implementation periods/issues and other features of the technology. The residuals or bi-products components, or any other special features, of technologies shall also be defined. For technologies that require sites, conduct a preliminary assessment to identify eligible sites based on criteria developed in this task. For technologies not requiring a specific site, identify areas/locations in which these alternative options might be usefully applied.

2.3. Evaluate and Screen Alternatives

2.3.1. Prepare and conduct a workshop in close consultation with the Town to screen the technologies and approaches. Preparation for the workshop will include recommendation of the screening process (including use of proprietary or non-proprietary decision support tools), quantitative and non-quantitative decision criteria, sensitivity analyses, public involvement, means of gaining regulatory input and workshop documentation. Criteria will include, but not necessarily be limited to, technical, environmental, legal, financial, life-cycle cost, public acceptability and other non-quantitative variables. Results of the workshop will include one or more alternatives, addressing each of the needs, which will be carried forth to full evaluation. The Respondent will develop a mailing list of watershed residents.

2.3.2. Summarize the results of the workshop in a draft and final Technical Memorandum, incorporating comments from the Town. This Technical Memorandum will develop and describe the technologies, approaches and/or combinations of such, including the “No Action” Alternative that will be carried forth for further evaluation. One or more Alternative Plans, each possibly incorporating different technologies, will encompass the entire Oyster Pond planning area (i.e., plans for various sub-areas may be carried forth).

Task 3 – Detailed Evaluation of Screened Alternatives and Recommended Plan

The purpose of this task is to perform, in close cooperation with the Town, a more detailed evaluation of the near-term alternative plans that result from the Task 2 Screening, and to define,

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from that detailed evaluation, a recommended plan for the Oyster Pond Watershed to be included in the revised Draft CWMP.

3. Detailed Evaluation of Screened Alternatives and Recommended Plan

3.1 Develop schematic layout, and detailed definition of each technology or approach to be evaluated.

3.1.1 Coordinate with the Town, DEP and SMAST to determine the requirements and, if necessary, the schedule for updating the watershed hydrologic modeling and estuary hydrodynamic modeling to comply with TMDL requirements. If updating is determined to be required, estimate the cost of the technical services necessary to support the SMAST modeling effort. "Follow-up modeling" is intended to mean modeling of alternative nitrogen reduction plans to determine the effectiveness of the plans towards achieving the critical nitrogen thresholds and the TMDLs for the ponds.

3.1.2 Prepare an estimate of capital and O&M costs for each alternative plan, including Net Present Value (NPV) analysis.

3.1.3 Complete a detailed evaluation of screened alternatives based on at least the following factors:

- More detailed definition of process trains, facility requirements, residuals and bi-product process streams, site requirements and availability, and other factors.
- Projected impact on pond water quality and habitat (effectiveness at nitrogen removal and effectiveness at achieving the MEP concentration thresholds, based on analysis in step 3.1.1 above).
- Cost (analysis of capital costs and long-term operation and maintenance costs, as well as an evaluation of cost-effectiveness and 20 year NPV and life cycle costs.)
- Reliability and implementation ability, including regulatory constraints and public acceptability.
- Other direct and indirect impacts determined in consultation with the Town to be important in alternative selection, including environmental impacts and impacts on growth or redevelopment potential.

3.1.4 Conduct a workshop to evaluate and rank the alternatives using the evaluation plan developed in Task 2.2.1.

3.1.5 Evaluate funding, financing and user charge options for funding of the implementation of the alternative plans and assess impacts to the town and to property owners of each of these options.

3.2 Prepare a DRAFT CWMP / Draft EIR Final Report and Recommended Plan

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- 3.2.1 Describe the components and characteristics of the Recommended Plan.
- 3.2.2 For both traditional and/or non-traditional solutions, prepare preliminary design criteria and preliminary designs for those facilities proposed for the first phase of construction, including maps showing service area(s), facility locations, effluent disposal or reuse location(s), sewer routes or other requirements; develop schematic flow diagrams and other information necessary for DEP review and approval.
- 3.2.3 For non-structural approaches (e.g. fertilizer management measures), define the important technical or management requirements, outline required documents and adopting bodies, define legal and regulatory requirements, outline key issues and steps in implementation.
- 3.2.4 Recommend municipal or private management structures and provisions to ensure long-term operation of the systems, including compliance monitoring and reporting. Recommend modifications to town bylaws, regulations and or zoning, if appropriate and/or necessary.
- 3.2.5 Prepare project implementation schedule for the recommended plan, including detailed schedule for design and construction of wastewater facilities (or phased construction of facilities).
- 3.2.6 Prepare detailed capital, O&M and administrative cost estimates for recommended plan, including 20 year NPV and life cycle analyses.
- 3.2.7 Recommend a plan for funding/financing the implementation of the recommended plan and project the impacts to the town and to property owners including residential, institutional and commercial). Include a list of grant funding opportunities using state, EPA or private programs for innovative technologies development.
- 3.2.8 Assist the Town with preparation for and participate in one public meeting to present results of the project and receive public comments. Prepare a draft and final response to public comments in cooperation with the WQMC.

4.0 Schedule

- The Town anticipates the CWMP will be approved within 18 months from award of the contract award.
- Within 30 days of award, develop an 18 month milestone chart for the project containing schedules for tasks and funding allotments. Any changes in the schedule or work plan must be immediately reported to the Town of Falmouth Wastewater Superintendent for approval prior to implementation.

5.0 Meetings

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- Report in person on project progress to the Town quarterly (timed with the monthly Progress Reports).
- Make public presentations during at least five public meetings or hearings to discuss the MEPA Environmental Notification Form , Alternatives, Draft and Final CWMP and Cape Cod Commission
- Attend at four meetings with the town and regulatory agencies to finalize scope of work, complete MEPA and Cape Cod Commission reviews and finalize recommended plan.

6.0 Deliverables

- A brief progress report with each invoice, summarizing activity during the invoice period. Such reports will include the current project status, a statement of time and funds expended any required schedule update, and a statement of any anticipated personnel changes.
- For Task 1, Document Baseline Conditions: Provide ten (10) hard copies and an electronic copy in Microsoft Word of all written reports (Technical Memoranda). Provide both Draft Reports for review and Final Reports based on Town comments. Any original cost estimates prepared under this scope of services shall be provided in hard copy (6) and in usable electronic format (i.e., Microsoft Excel), and shall include sufficient detail for the Town to understand the basis – unit costs, multipliers, assumptions, sources and dates, etc.
 - GIS Map that includes all the requirements of Task 1.1 – 1.6
 - Technical Memorandum meeting all the requirements of Task 1.7 – 1.9
- For Task 2, Development and Screening of Alternatives: Provide ten (10) hard copies and an electronic copy in Microsoft Word of all written reports (Technical Memoranda). Provide both Draft Reports for review and Final Reports based on Town comments. Any original cost estimate prepared under this scope of services shall be provided in hard copy (6) and in usable electronic format (i.e., Microsoft Excel), and shall include sufficient detail for the Town to understand the basis – unit costs, multipliers, assumptions, sources and dates, etc.
 - Technical Memorandum meeting all the requirements of Task 2.1 & 2.2
 - Summary of Workshop Technical Memorandum meeting all the requirements of Task 2.3
- For Task 3, Evaluation of Alternatives and Recommended Plan: Provide ten (10) hard copies and an electronic copy in Microsoft Word of all written reports (Technical Memoranda and Draft CWMP/EIR). Provide both Draft Reports for review and Final Reports based on Town comments. Any original cost estimate prepared under this scope of services shall be provided in hard copy (6) and in usable electronic format (i.e., Microsoft Excel), and shall include sufficient detail for the Town to understand the basis – unit costs, multipliers, assumptions, sources and dates, etc.
 - Technical Memorandum meeting all the requirements of Task 3.1.1 – 3.1.5, Detailed Evaluation of Screened Alternatives

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- DRAFT CWMP / Draft EIR Final Report and Recommended Plan meeting all the requirements of Task 3.2.1 – 3.2.9

7.0 Proposal Submittal Requirements

All proposals shall be submitted to the Department of Public Works, 416 Gifford Street, Falmouth MA 02540, on or before the date and time stated in the Request for Proposals.

Each proposal shall be in a sealed envelope or package, together with the name and address of the respondent and the date and time of proposal opening. Proposals must be clearly marked "Proposal – Oyster Pond CWMP for Wastewater/Nutrient Management."

Each proposal shall include a cover letter bearing the name and address of the firm, the name and title of the firm representative, the signature of the firm representative, and phone number.

Each proposal shall be submitted in two parts: a Technical Proposal and a Cost Proposal.

Six copies and one original of the technical proposal shall be submitted in a sealed envelope or package clearly marked "Technical Proposal – Oyster Pond CWMP for Wastewater/Nutrient Management."

One original of the cost proposal shall also be submitted, under separate cover, in a sealed envelope clearly marked "Cost Proposal – Oyster Pond CWMP for Wastewater/Nutrient Management."

Late and/or unsigned proposals will not be accepted. Proposals failing to adhere to the format prescribed in this RFP may be ruled ineligible.

The proposal must include a statement that the prices quoted remain valid for at least sixty (60) days from the due date for proposals to this RFP. The contents of this RFP and the proposal will become contractual obligations if a contract ensues. Proposals should be prepared simply and economically, providing a concise description of the respondent's ability to meet the requirements of the RFP. Emphasis should be on completeness, clarity and on a straight-forward description of technical and management approach and how the respondent will accomplish the tasks noted in this RFP. All proposals and materials submitted will be considered the property of the Town of Falmouth.

7.1 Requirements of Technical Proposal

- **Technical Approach:** A detailed proposal specifying the technical approach to be used by the consultant. This section may also include any recommendations for enhancing the project. The proposal should note any teaming arrangement; any tasks in which the respondent plans to utilize the services of sub consultants, Town of Falmouth officials, and/or any other parties. This section should also state office location(s) from which services would be provided
- **Description of Relevant Experience:** Description of the firm's overall experience and capabilities relevant to the required services.